AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1.   (Currently Amended) A method for delivering of a plurality of RDMA messages, the method comprising the steps of:

placing each out-of-order RDMA message to a reassembly buffer, wherein each in-order RDMA message bypasses the reassembly buffer and is ~~placed in~~ sent to an internal data buffer for direct placement to a destination buffer;

storing information regarding each out-of-order RDMA message on a per TCP hole basis, wherein a TCP hole is a vacancy created in a TCP stream as a result of an out-of-order TCP segment, wherein the information stored for RDMA Read messages includes at least a number of pending RDMA Read Request messages waiting for a doorbell ring in a connection context on a per TCP hole basis or a number of completed RDMA Read Response messages on a per TCP hole basis; and

delivering the plurality of RDMA messages in-order, such that the out-of-order RDMA messages are reassembled in-order in the reassembly buffer.

2.   (Currently Amended) The method of claim 1, wherein, for an RDMA Read Request message, the storing step includes:

~~storing a number of pending RDMA Read Response messages waiting for a doorbell ring in a connection context on a per TCP hole basis; and~~

ringing the doorbell of a network interface controller (NIC) that each of the number of pending RDMA read response messages have been posted to a respective work queue element (WQE) of a read queue upon closing of a respective TCP hole.

3.   (Original) The method of claim 2, further comprising the step of processing each WQE.

4.   (Original) The method of claim 1, wherein, for RDMA Send type messages, the delivery step includes, for each RDMA Send message of a TCP hole, placing RDMA Send message specific information to a work queue element (WQE) associated with the respective RDMA Send message.

5.   (Original) The method of claim 4, further comprising the step of placing the CQE to a completion queue (CQ) upon closing of the TCP hole.

6.   (Original) The method of claim 4, wherein a number of CQEs is equal to a number of RDMA Send messages of the TCP hole.

7.   (Original) The method of claim 4, wherein RDMA Send message specific information is retrieved from a respective WQE upon a Poll-for-Completion request by an RDMA verb interface.

8.   (Currently Amended) The method of claim 1, wherein, for RDMA Read Response type messages, the method further comprises the ~~steps~~ step of:

~~storing a number of completed RDMA Read Response messages on a per TCP hole basis;~~ ~~and~~

reporting completion of RDMA Read work requests upon closing of the TCP hole.

9.   (Currently Amended) A system for delivering of a plurality of RDMA messages, the system comprising:

a processor; and

a memory, further comprising:

means for placing each out-of-order RDMA message to a reassembly buffer, wherein each in-order RDMA message bypasses the reassembly buffer and is ~~placed in~~ sent to an internal data buffer for direct placement to a destination buffer;

means for storing information regarding each out-of-order RDMA message on a per TCP hole basis, wherein a TCP hole is a vacancy created in a TCP stream as a result of an out-of-order TCP segment, wherein the information stored for RDMA Read messages includes at least a number of pending RDMA Read Request messages waiting for a doorbell ring in a connection context on a per TCP hole basis or a number of completed RDMA Read Response messages on a per TCP hole basis; and

means for delivering the plurality of RDMA messages in-order, such that the out-of-order RDMA messages are reassembled in-order in the reassembly buffer.

10.   (Currently Amended) The system of claim 9, wherein, for an RDMA Read message, the storing means includes:

~~means for storing a number of pending RDMA Read Response messages waiting for a doorbell ring on a per TCP hole basis; and~~

means for ringing the doorbell of the delivery means that each of the number of pending RDMA Read Response messages have been posted to a respective work queue element (WQE) of a read queue upon closing of a respective TCP hole.

11.   (Original) The system of claim 9, wherein, for RDMA Send type messages, the delivery means includes, for each RDMA Send message of a TCP hole, placing RDMA Send message specific information to a work queue element (WQE) associated with the respective RDMA Send message.

12.   (Original) The system of claim 11, further comprising means for placing the CQE to a completion queue (CQ) upon closing of the TCP hole.

13.   (Original) The system of claim 11, wherein a number of CQEs is equal to a number of RDMA Send messages of the TCP hole.

14.   (Original) The system of claim 11, wherein the RDMA Send message specific information is retrieved from a respective WQE upon a Poll-for-Completion request by an RDMA verb interface.

15.   (Currently Amended) The system of claim 9, further comprising:
       ~~means for storing a number of completed RDMA Read Response messages on a per TCP hole basis; and~~

       means for reporting completion of RDMA Read work requests upon closing of the TCP hole.

16.   (Currently Amended) A computer program product comprising a tangible computer useable storage medium having computer readable program code embodied therein for delivering of a plurality of RDMA messages, the program product comprising:

       program code configured to place each out-of-order RDMA message to a reassembly buffer, wherein each in-order RDMA message bypasses the reassembly buffer and is ~~placed in~~ sent to an internal data buffer for direct placement to a destination buffer;

       program code configured to store information regarding each out-of-order RDMA message on a per TCP hole basis, wherein a TCP hole is a vacancy created in a TCP stream as a result of an out-of-order TCP segment, wherein the information stored for RDMA Read messages includes at least a number of pending RDMA Read Request messages waiting for a doorbell ring in a connection context on a per TCP hole basis or a number of completed RDMA Read Response messages on a per TCP hole basis; and

       program code configured to deliver the plurality of RDMA messages in-order, such that

the out-of-order RDMA messages are reassembled in-order in the reassembly buffer.

17.   (Currently Amended) The program product of claim 16, wherein, for an RDMA Read message, the storing program code includes:

~~program code configured to store a number of pending RDMA Read Response messages waiting for a doorbell ring in a connection context on a per TCP hole basis; and~~

program code configured to ring the doorbell of a network interface controller (NIC) that each of the number of pending RDMA Read Response messages have been posted to a respective work queue element (WQE) of a read queue upon closing of a respective TCP hole.

18.   (Original) The program product of claim 16, wherein, for RDMA Send type messages, the delivery program code includes program code configured to placing RDMA Send message specific information to a work queue element (WQE) associated with each RDMA Send message of a TCP hole.

19.   (Original) The program product of claim 18, further comprising program code configured to place the CQE to a completion queue (CQ) upon closing of the TCP hole.

20.   (Original) The program product of claim 18, wherein a number of CQEs is equal to a number of RDMA Send messages of the TCP hole.

21.   (Original) The program product of claim 18, wherein the RDMA Send message specific information is retrieved from a respective WQE upon a Poll-for-Completion request by an RDMA verb interface.

22.   (Currently Amended) The program product of claim 16, further comprising:
        ~~program code configured to store a number of completed RDMA Read Response messages on a per TCP hole basis; and~~

        program code configured to report completion of RDMA Read work requests upon closing of the TCP hole.